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REMARKS

Claims 1-22 are currently pending in this application. Reconsideration is respectfully requested in light of the above claim amendments and the following remarks.

The Examiner rejected claims 1-10, 12-16 and 18-20 under 35 U.S.C §102(b) as being anticipated by U.S. Patent 5,549,650 to Bomzin et al. Applicants respectfully traverse this rejection.

Applicants' claimed invention, as recited in pending independent claims 1, 6, 12 and 18 is directed to a method and corresponding apparatus for determining, *in vivo*, a myocardial tissue displacement based at least in part on a sensed potential. (Underlining added for emphasis only). Applicants respectfully submit that Bomzin et al. do not disclose or suggest the recited claim elements.

Rather, Bomzin et al. teach that the pre-ejection period may be determined based on cardiac wall velocity or acceleration signals and an electrocardiogram. The Examiner submits that the determination of the pre-ejection period as taught by Bomzin et al. is a tissue displacement based on sensed potential since Bomzin et al. teach the use of an acceleration signal in conjunction with an electrocardiogram to determine the pre-ejection period. Applicants respectfully disagree.

The pre-ejection period, as determined by Bomzin et al. using an acceleration signal and an electrocardiogram, is the time between electrical stimulus (i.e. an R-wave) and the beginning of the mechanical contraction of the heart. (Bomzin et al., col. 5, lines 53-58). Thus, Bomzin et al. uses in combination a sensed electrocardiogram (i.e. a sensed potential) and an acceleration signal, which alone measure cardiac mechanical activity, to determine the time between an electrical stimulus and the beginning of a cardiac contraction. Bomzin et al. do not however, disclose or suggest determining, *in vivo*, myocardial tissue displacement based at least in part on a sensed potential as recited in applicants claimed invention.

Accordingly, applicants respectfully submit that independent claims 1, 6, 12 and 18 are novel and unobvious over Bomzin et al. and are therefore allowable. Applicants further submit that claims 2-5, claims 7-10, claims 13-17 and claim 19 that depend on

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claims 1, 6, 12 and 18 respectfully, are allowable as are claims 1, 6, 12 and 18 and for additional limitations recited therein.

Similarly, independent claim 20 recites an implantable cardiac system comprised in part by circuitry that is operative to deliver an electrical signal to a first electrode position in or adjacent to a cardiac chamber, sense a potential generated by the delivered electrical signal at a second electrode position, and determine a myocardial tissue displacement based at least in part on the sensed potential. (Underlining added for emphasis only). Applicants respectfully submit that Bornzin et al. do not disclose or suggest the recited claim elements.

Rather as argued above with respect to claims 1, 6, 12 and 18 Bornzin et al. simply disclose the use of a sensed electrical signal in combination with an acceleration signal to determine the time between an electrical stimulus and the beginning of a cardiac contraction not tissue displacement as recited in claim 20 of the present invention. Accordingly, applicants respectfully submit that claim 20 is novel and unobvious over Bornzin et al. and is therefore allowable.

The Examiner rejected claims 17 and 21-22 under 35 U.S.C. §103(a) as being unpatentable over Bornzin et al. Applicants respectfully submit that claim 17 and claims 21-22 depend from independent claims 12 and 20 which as argued above are allowable over Bornzin et al. Accordingly applicants respectfully submit that claims 17 and 21-22 are allowable as are claims 12 and 20 and for additional limitations recited therein.

The Examiner rejected claim 11 under 35 U.S.C. §103(a) as being unpatentable over Bornzin et al. Applicants respectfully traverse this rejection.

Independent claim 11 recites a method comprised in part by determining, *in vivo*, a left ventricular ejection fraction based at least in part on a sensed potential. Applicants respectfully submit that Bornzin et al. do not disclose or suggest the recited claim elements. Rather Bornzin et al. teach the use of an electrocardiogram in conjunction with an acceleration signal to determine the time between an electrical stimulation and the beginning of the corresponding cardiac contraction. Accordingly, applicants respectfully submit that claim 11 is novel and unobvious over Bornzin et al. and is therefore allowable.

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The Examiner objected to the Specification for various informalities. Applicants have amended the Specification in accordance with the Examiner's suggestion and respectfully requests that this objection be withdrawn.

In light of the above amendments and remarks, it is respectfully submitted that the application is in condition for allowance, and an early notice of allowance is requested.

Respectfully submitted,

6-27-05
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